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10/590,271	08/22/2006	Shunpei Yamazaki	0756-7804	6014
31780	7590	05/09/2008	EXAMINER	
ERIC ROBINSON			JAHAN, BILKIS	
PMB 955			ART UNIT	PAPER NUMBER
21010 SOUTHBANK ST.			2814	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/590,271

**Applicant(s)**

YAMAZAKI, SHUNPEI

**Examiner**

BILKIS JAHAN

**Art Unit**

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-US)  
Paper No(s)/Mail Date 8/22/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-8, 10-11, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (US 2003/0052324) A1.

Regarding claim 1, Kimura discloses a semiconductor device (Fig. 13G) comprising:

- an antenna 2708 (Fig. 13G, Para. 190), an integrated circuit (Fig. 10B) comprising a thin film transistor 5026 (Fig. 6A, Para. 133), a light-emitting element 6050 (Fig. 10B, Para. 169), and
- a light-receiving element 6045 (Fig. 10A, Para. 167), wherein the light-emitting element 6050 (Fig. 10B, Para. 169) and the light-receiving element 6045 (Fig. 10A, Para. 167) each have a layer for conducting photoelectric conversion (Fig. 10A and Fig. 10B, Para. 167, Para. 169), and
- wherein the antenna 2708 (Fig. 13G, Para. 190), the light-emitting element 6050 (Fig. 10B, Para. 169) and the light-receiving element 6045 (Fig. 10A, Para. 167) are electrically connected to the integrated circuit (Antenna has

to be electrically connected to the Integrated Circuit in order to be the device working).

- Kimura discloses the light-receiving element's photoelectric conversion layer is a non-single crystal thin film (Para. 165, lines 6-7) but does not disclose a non-single crystal thin film of the light-emitting element photoelectric conversion layer. However, this is a "Product by Process" claim. A "Product by Process" claim is direct to the product *per se*, no matter how actually made. See In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) and the related case law cited therein which makes it clear that it is the final product *per se* which must be determined in a "Product by Process" claim, and do not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "Product by Process" claims or not. As stated in Thorpe,

Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. *In re Brown*, 459 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); *Buono v. Yankee Maid Dress Corp.*, 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935).

**Note that applicant has burden of proof in such cases** as the above case law makes clear.

Regarding claim 2, Kimura discloses limitations above and Kimura further discloses the integrated circuit (Fig. 10B), the light-emitting element 6050 (Fig. 10B,

Para. 169) and the light-receiving element 6045 (Fig. 10A, Para. 167) are formed integrally (Fig. 10B).

Regarding claim 3, Kimura discloses limitations above and Kimura further discloses the antenna, the integrated circuit, the light-emitting element and the light-receiving element are formed integrally (Fig. 13G, the antenna 2708 in Fig. 13G is integrally connected to the IC in the device).

Regarding claims 5, 6, Kimura discloses limitations above but does not disclose the integrated circuit, the light-emitting element and the light-receiving element are formed over a first substrate and then separated therefrom, and attached to a second substrate.

- However, this is a process claim and a "Product by Process" claim is direct to the product *per se*, no matter how actually made. See In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) and the related case law cited therein which makes it clear that it is the final product *per se* which must be determined in a "Product by Process" claim, and do not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "Product by Process" claims or not. As stated in Thorpe,

Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. *In re Brown*, 459 F.2d 1345, 1348, 162 USPQ 145,

147 (CCPA 1969); *Buono v. Yankee Maid Dress Corp.*, 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935).

**Note that applicant has burden of proof in such cases** as the above case law makes clear.

Regarding claim 7, Kimura discloses limitations above but does not disclose the antenna, the integrated circuit, the light-emitting element and the light-receiving element are formed over a first substrate and then separated therefrom, and attached to a second substrate.

- However, this is a process claim and a "Product by Process" claim is direct to the product *per se*, no matter how actually made. See *In re Thorpe et al.*, 227 USPQ 964 (CAFC, 1985) and the related case law cited therein which makes it clear that it is the final product *per se* which must be determined in a "Product by Process" claim, and do not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "Product by Process" claims or not. As stated in Thorpe,

Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. *In re Brown*, 459 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); *Buono v. Yankee Maid Dress Corp.*, 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935).

**Note that applicant has burden of proof in such cases** as the above case law makes clear.

Regarding claim 8, Kimura discloses limitations above but does not disclose wherein the light-emitting element can convert the second signal to an optical signal.

- In reference to the claim language referring to the functions of the semiconductor Device, i.e. the light-emitting element can convert the second signal to an optical signal, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, and then its meet the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); Ex parte Masham, 2USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). In the instant case and as explained above, Kimura shows all structural limitations specifically recited in the claim.

Regarding claim 10, Kimura discloses an IC card comprising:

- an antenna 2708 (Fig. 13G, Para. 190), an integrated circuit (Fig. 10B) comprising a thin film transistor 5026 (Fig. 6A, Para. 133), a light-emitting element 6050 (Fig. 10B, Para. 169), and a light-receiving element 6045 (Fig. 10A, Para. 167),

- wherein the antenna 2708 (Fig. 13G, Para. 190), the light-emitting element 6050 (Fig. 10B, Para. 169) and the light-receiving element 6045 (Fig. 10A, Para. 167) are electrically connected to the integrated circuit (Antenna has to be electrically connected to the Integrated Circuit in order to be the device working).
- wherein the integrated circuit (Fig. 10B), the light-emitting element 6050 (Fig. 10B, Para. 169) and the light-receiving element 6045 (Fig. 10A, Para. 167) are formed integrally (Fig. 10B).

Regarding claim 11, Kimura discloses limitations above and Kimura further discloses the antenna, the integrated circuit, the light-emitting element and the light-receiving element are formed integrally (Fig. 13G, the antenna 2708 in Fig. 13G is integrally connected to the IC in the device).

Regarding claims 13, 14, 15, Kimura discloses limitations above but does not disclose the integrated circuit, the light-emitting element and the light-receiving element are formed over a first substrate and then separated therefrom, and attached to a second substrate.

- However, this is a process claim and a "Product by Process" claim is direct to the product *per se*, no matter how actually made. See In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) and the related case law cited



therein which makes it clear that it is the final product *per se* which must be determined in a "Product by Process" claim, and do not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "Product by Process" claims or not. As stated in Thorpe,

Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. *In re Brown*, 459 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); *Buono v. Yankee Maid Dress Corp.*, 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935).

**Note that applicant has burden of proof in such cases** as the above case law makes clear.

Claims 4, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (US 2003/0052324) A1 in view of Nishi et al (US 6,590,633 B1).

Regarding claim 4, Kimura discloses limitations above and Kimura further discloses wherein the integrated circuit comprises a connection terminal (it is obvious to have connection terminal to connect IC to the device), a rectification circuit (Fig. 14B, element "AMPLIFICATION ELEMENT") that generates power supply voltage from an alternating current signal that is input to the connection terminal by an antenna but does not disclose a demodulation circuit for demodulating a first signal received in the light-receiving element, and a logic circuit that conducts arithmetic operation according to the first signal that is demodulated to generate a

second signal, wherein the light-emitting element can convert the second signal to an optical signal.

- However, Nishi et al disclose a demodulation circuit (col. 12, line 27) and a logic circuit (col. 12, line 20). Nishi teaches a demodulation circuit and logic circuit are used to management and control of the charging state and the management and control of the communication port (col. 12, lines 22-24). It would have been obvious to one of the ordinary skill of the art at the time of invention to add Kimura's structure with Nishi's structure including demodulation circuit and logic circuit to management and control of the charging state and the management and control of the communication port (col. 12, lines 22-24).

In reference to the claim language referring to the functions of the semiconductor Device, i.e. for demodulating a first signal received in the light-receiving element, that conducts arithmetic operation according to the first signal that is demodulated to generate a second signal, wherein the light-emitting element can convert the second signal to an optical signal intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, and then its meet the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); Ex parte Masham, 2USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). In the instant case and as

explained above, Kimura shows all structural limitations specifically recited in the claim.

Regarding claim 12, Kimura discloses limitations above and Kimura further discloses the integrated circuit comprises a connection terminal (it is obvious to have connection terminal to connect IC to the device), a rectification circuit (Fig. 14B, element "AMPLIFICATION ELEMENT") that generates power supply voltage from an alternating current signal that is input to the connection terminal by an antenna, but does not disclose a demodulation circuit for demodulating a first signal received in the light-receiving element, and a logic circuit that conducts arithmetic operation according to the first signal that is demodulated to generate a second signal, wherein the light-emitting element can convert the second signal to an optical signal.

- However, Nishi et al disclose a demodulation circuit (col. 12, line 27) and a logic circuit (col. 12, line 20). Nishi teaches a demodulation circuit and logic circuit are used to management and control of the charging state and the management and control of the communication port (col. 12, lines 22-24). It would have been obvious to one of the ordinary skill of the art at the time of invention to add Kimura's structure with Nishi's structure including demodulation circuit and logic circuit to management and control of the charging state and the management and control of the communication port (col. 12, lines 22-24).

- In reference to the claim language referring to the functions of the semiconductor Device, i.e. for demodulating a first signal received in the light-receiving element, that conducts arithmetic operation according to the first signal that is demodulated to generate a second signal, wherein the light-emitting element can convert the second signal to an optical signal intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, and then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); Ex parte Masham, 2USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). In the instant case and as explained above, Kimura shows all structural limitations specifically recited in the claim.

Claims 9, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (US 2003/0052324) A1 in view of Nakamura (US 2004/0152392 A1).

Regarding claims 9, 16, Kimura discloses limitations above and Kimura further discloses the first substrate is a glass substrate 5001 (Fig. 5A, Para. 118) but does not disclose the second substrate is a plastic substrate.

- However, Nakamura discloses the second substrate is a plastic substrate 315 (Fig. 3A, Para. 127). Nakamura teaches plastic substrate is used to

emit light from the light emitting elements (Para. 28, lines 1-2). It would have been obvious to one of the ordinary skill of the art at the time of invention to add Kimura's structure with Nakamura's structure including plastic substrate to emit light from the light emitting elements (Para. 28, lines 1-2).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BILKIS JAHAN whose telephone number is (571)270-5022. The examiner can normally be reached on M-F, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571)-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2814

/Wai-Sing Louie/  
Primary Examiner, Art Unit 2814

BJ